application will be filed at a later date. Claims 25-28 are hereby withdrawn from consideration.

Favorable reconsideration of this application in light of the above amendments and the following remarks is respectfully requested.

The invention provides a new method for creating air gaps in a layer of IMD. A first layer of dielectric is deposited over a surface; the surface contains metal points of contact. Trenches are etched in this first layer of dielectric. The trenches are filled with a first layer of nitride or disposable solid and polished. A second layer of dielectric is deposited over the first layer of dielectric. Trenches are formed in the second layer of dielectric, a second layer of nitride or disposable solid is deposited over the second layer of dielectric. The layer of nitride or disposable solid is polished. A thin layer of oxide is deposited over the surface of the second layer of dielectric. The thin layer of oxide is masked and etched thereby creating openings in this thin layer of oxide, these openings align with the points of intersect of the trenches in the first layer of dielectric and in the second layer of dielectric. The nitride or removable solid is removed from the trenches. The openings in the thin layer of oxide are

closed off leaving a network of trenches that are filled with air in the two layers of dielectric that now function as the Inter Level Dielectric.

Specification

The ABSTRACT of the specification has been shortened, a new ABSTRACT is hereby submitted.

Claim rejections - 35 U.S.C. § 112

Reconsideration of the rejection of claims 4, 5, 11 and 15 35 U.S.C 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make use of the invention, is respectfully requested based on the following.

The rejection of claim 15 is considered moot since claim 15 has been cancelled.

Claims 4 and 5 have been amended in order to more clearly specify the meaning of the therein specified concept of the trenches intersecting under a 90 degree angle.

Examiner is thanked for pointing out the lack of antecedent in claim 11. Claim 11 has been amended whereby the lack of antecedent has been removed from claim 11.

In light of the foregoing response, applicant respectfully requests that the Examiner's rejection of claims 4, 5, 11 and 15 35 U.S.C 112, first paragraph, be withdrawn.

Claim rejections - 35 U.S.C. § 103(a)

Reconsideration of the rejection of claims 1-8, 11, 16-20 under 35 U.S.C 103(a) as being unpatentable over Katoh (US Patent 5,141,896) and Ito (US Patent 6,297,145 B1) is respectfully requested based on the following.

At a first glance the invention that is provided by Katoh may appear to be enough of a basis to judge this invention to be able to form the basis for the instant invention. At a closer examination however this turns out to be not correct. This can best be highlighted by examining Fig. 1 that is provided by Katoh and by noting the following points:

- Katoh provides a process for the creation of crossing points for interconnections of semiconductor devices; this will be further highlighted below but must at this point be

contrasted with the instant invention by emphasizing that the instant invention forms (mechanically stable) air gaps between metal lines, thereby reducing capacitive coupling through a layer of Inter Metal Dielectric

- The above is clear from examining the final structure that is created by Katoh and comparing this structure with the final structure that is created by the instant invention; Fig. 1 of Katoh shows a first level interconnect (level 1) over which a second level (level 6) of interconnect is created; these two levels of interconnect intersect under an angle of 90 degrees, making the Katoh invention look like the instant invention; however, the instant invention, as shown in the three dimensional view of Fig. 8a, shows (empty, or to be more precise: filled with air, that is devoid of any semiconductor material thereby including a first and second level of interconnect) trenches 16 (first level) and 19 (second level)
- As a final point, and to be even more precise, the metal interconnects of the instant invention are highlighted, again using the three dimensional view of Fig. 8a of the instant invention, as conductive interconnect 12 and 28; in between these layers 12 and 28 of conductive interconnects have been formed layers of dielectric that, due to the special process of the invention as described in the specification and as

specified in detail in the claims of the invention, now contain trenches filled with air

- The conductive layers of interconnects of the instant invention are separated by (multiple) layers of dielectric in order to create a dielectric of low dielectric constant; by contrast, the conductive layers of the Katoh invention are overlying and perpendicularly intersecting and must be separated by an insulating film for the obvious reason that the overlying conductive layers would otherwise form electrical shorts there-between
- In short: Katoh creates crossing points for interconnects, the instant invention creates mechanically stable air gaps between metal lines
- The "channel" or "trenches" that are created by Katoh, are filled with a (first and second level of) insulating material that remains in place (to insulate conductive interconnects); the trenches that are created by the instant invention are filled with a material (nitride) that, as part of the process of the invention and basic to the invention, is removed (to create air gaps).

Ito forms a wiring layer having an air bridge construction and as such forms, see ABSTRACT, a wiring layer with an air bridge construction. Specifically, see col. 4, lines 32 e.a.,

Ito provides, over the surface of a semiconductor device, a via hole that connects an upper layer to a lower layer of interconnects and which has wiring of an air bridge construction, wherein an insulating post supporting the upper layer of metal is formed. In a second embodiment of the invention Ito provides an insulating post that has a diameter that is larger than the diameter of the via hole.

The invention that is provided by Ito is relatively complex in its implementation but from even the brief description that is highlighted above it is clear that Ito does not provide for the creation of overlying layers of interconnects (layers 12 and 28, Fig. 8a of the instant invention) that are separated by layers of dielectric in which air gaps have been provided. For instance, Ito in Figs. 10a and 10b, which are illustrative of the Ito invention because the various layers of conductive interconnects are shown in these drawings, shows:

- 2, a lower metal interconnect,
- 35, a first insulating post
- 20, a second metal interconnect,
- 36, a second insulating post, and
- 33, a third metal interconnect.

The essential step that is provided by Ito in order to create the air bridge is the removal of the first insulating layer 3 (see for instance Fig. 5c of Ito) and the second interlayer insulating film 21 (see for instance Fig. 10b of Ito), thereby, col. 9, lines 42 e.a.: "leaving the metal interconnects, the vial holes 16 and 32, and the insulating posts 35 and 26'". This is clear from the final Fig. 10b that is provided by Ito. The construction that is shown in this figure has no similarity with the structure that is shown in Fig. 8a of the instant invention, nor does the processing sequence that is provided by Ito compare with the processing sequence that is provided by the instant invention. The nitride-filled trenches created by Ito also have no commonality with the layers of nitride that are used by the instant invention. The layers of silicon nitride are used by Ito to form part of the supporting insulation post 35 (Fig. 3 e a.) that is created by Ito to support overlying layers of metal. This in contrast with the nitride that is used by the instant invention, which is used for later removal of this nitride, to create the air filled spacing provided within a layer of dielectric that separates patterned layers of interconnect metal.

In neither Katoh nor Ito is any reference made to creating overlying and perpendicularly intersecting trenches that are

processed so that these trenches can be vacated of the therein contained semiconductor material. Katoh creates overlying layers of metal that perpendicularly intersect and are (by necessity) separated by a layer of insulation. Ito creates overlying layers of metal that are separated and supported by insulating posts. In neither Katoh nor Ito for instance is used a first and a second layer of oxide, the first to enable creating holes therethrough so that the disposable material can be removed from the trenches, the second to close the created air space after the trenches have been opened. Neither the trenches as used by the instant invention nor the creation of air spaces inside a layer of dielectric that separates interconnect traces, nor the steps of first creating openings (to remove the material contained in the trenches) and the closing of these openings overlying the trenches is provided by either Katoh and Ito nor is any reference thereto provided by either one of these inventions or by the combination thereof.

Claim 11 is specified in order to provide that the process of the invention can be applied using another material, other than nitride, that can also be removed from the trenches that have been created in the overlaying layers of dielectric. Claim 11 is therefore required to completely specify the method of the invention.

Regarding claims 2 and 3, these claims are required to provide further detail that relates to the independent claim thereof. It is clear that some processing steps that are part of the invention, such as providing a semiconductor substrate, may also be used for other semiconductor processing steps. This commonality however does not deny or affect the originality of the instant invention. The specification that is provided in claims 2 and 3 completes the specification of the associated independent claim 1, without claims 2 and 3 the independent claim 1 may be open to dual and ambiguous interpretation.

Claims 4 and 5 have been amended in order to remove any possible misunderstanding relating to the term "under" in the expression of "under an angle of 90 degrees."

Claim 6 is of importance in order to further highlight and claim that the invention can be applied for the creation of a layer of dielectric that separates adjacent layers of interconnect traces even where these interconnect traces are relatively far removed from each other. In this case openings of high-aspect ratio must be created through the interposed layers of dielectric. In view of the increased miniaturization of semiconductor devices, and the increased use of openings of

high-aspect ratio, this claim takes on added significance for the era of sub-micron devices.

The repetition of claims 16- 20 is provided since these claims relate to and are provided in support of a different independent claim, that is claim 11, and does not, as the original claims 4-8, relate to the therewith associated independent claim 1.

In light of the foregoing response, applicant respectfully requests that the Examiner's rejection of claims 1-8, 11, 16-20 under 35 U.S.C 103(a) as being unpatentable over Katoh (US Patent 5,141,896) and Ito (US Patent 6,297,145 B1), be withdrawn.

Claim rejections - 35 U.S.C. § 103(a)

Reconsideration of the rejection of claims 9-10, 12-15, 21-24 under 35 U.S.C 103(a) as being unpatentable over Katoh (US Patent 5,141,896) and Ito (US Patent 6,297,145 B1) and further in view of Havemann et al. (US Patent 5,461,003) is respectfully requested based on the following.

The relative merits of Katoh (US Patent 5,141,896) and Ito (US Patent 6,297,145 B1) relating to the instant invention have been discussed supra and do therefore not need to be repeated at this time. These relative merits as argued supra are hereby included by reference thereto.

Havemenn et al. forms multi-level layers of interconnect whereby air gaps are formed between adjacent interconnect traces.

Havemann et al. does not provide for:

- Creating overlying layers of insulating material
- Etching a first network and a second network of trenches in respectively the first and the second layer of insulating material after these layers have been deposited, whereby the trenches created in the overlying layers of insulating materials intersect under an angle, whereby this angle is measured as an angle created between a first intersection and a second intersection, the first intersection being an intersection of a first plane of a sidewall of a trench pertaining to a first network of trenches (overlying a semiconductor substrate) and the surface of a semiconductor substrate, the first plane having been extended towards the surface of the semiconductor substrate to enable intersection

therewith, the second intersection being an intersection of a second plane of a sidewall of a trench pertaining to a second network of trenches (overlying a semiconductor substrate) and the surface of the semiconductor substrate, the second plane having been extended towards the surface of the semiconductor substrate to enable intersection therewith

- Filling the created trenches with a disposable material such as nitride
- Depositing a first layer of oxide over the surface of the created layers of insulating material
- Creating openings through the first layer of oxide that are aligned with the intersects of the first network and the second network of trenches
- Removing the disposable material from the trenches in both the first and the second layer of insulating material, and
- Depositing a second layer of oxide over the surface of the created layer of insulating material, thereby closing the openings that have been created through the first layer of oxide.

For all of these differences, the invention that is provided by Havermann et al., even if that invention has one or more dependent processing steps in common with the instant invention,

does not remove or affect the originality of the instant invention. Most notably, Havermann et al. remove a layer of disposable semiconductor material through a layer of porous dielectric material. Havermann et al. does created air gaps between adjacent and essentially parallel interconnect traces, the instant invention provides a layer of dielectric in which air trenches have been formed while the layers of interconnect metal are adjacent to the layer of dielectric.

Claims 9 and 10 specify further treatment that can be applied to the layers of dielectric that are used for the process of the invention. These special treatments are not basic to the process of the invention in which case these special treatments would have been included as part of an independent claim of the invention. Because of this and because these steps of process treatment are as yet important to the complete process of the invention (baking and curing of a layer of dielectric can significantly alter the behavior of a layer of dielectric in the processing stream of the instant invention), claims 9 and 10 have been provided. Under the Havermann et al. invention these steps may be applied but, if so, they are applied as part of a completely different processing sequence.

Claim 12 specifies the disposable solid layer comprising polymer, a material that is also applied by Haverman et al. Here too however the method and processing steps that are provided by Haverman et al. differ significantly from the method and processing steps of the instant invention, as has been highlighted in detail above. The commonality therefore of the use of polymer between the two inventions does not in any way provide commonality between the Havermann et al. invention and the instant invention, no more than for instance the common use of a temperature or a pressure would make two different inventions identical or even similar.

Claims 13-15 address aspects of removal of the disposable solid layer, a removal that is performed in a construct that is completely different from any of the here referred to constructs. It stands to reason that the combination of the creation of the openings in the first layer of oxide (overlying the layers of insulating material) and the removal of the (removable) material from the created trenches is not by itself an "obvious" step. Parameters of design (dimensions of the opening that are created, thickness of the layers of insulating material, the width and depth of the created trenches) have a significant effect on how the material can be removed from the trenches. In order to remove any ambiguity in this and in order

to specify the limitations of these combinations, the process of the removal of the disposable solid is critical and must therefore be specified in all its possibilities. Claims 13-15 provide these specifications.

Claims 20 and 21 relate to a different independent claim than the previous claims, which have the same format. Since the independent claims (claim 1 and claim 11) are different, claims 20 and 21 must again be provided in order to avoid inadequate specification of independent claim 11.

Claim 23 provides for "deposing a layer of metal on the surface of said substrate" and "etching said layer of metal to form metal leads" over a semiconductor surface, as opposed to claim 1 wherein "said semiconductor substrate has been provided with points of electrical contact". Claim 23 therefore adds a level of complexity to the invention. Claim 24 has been amended as previously addressed for claims 4 and 5, as have claims 16 and 17.

In light of the foregoing response, applicant respectfully requests that the Examiner's rejection of claims 9-10, 12-15, 21-24 under 35 U.S.C 103(a) as being unpatentable over Katoh (US Patent 5,141,896) and Ito (US Patent 6,297,145

B1) and further in view of Havemann et al. (US Patent 5,461,003), be withdrawn.

The prior art made of record and not relied upon that is considered pertinent to Applicant's disclosure, that is Chino et al. (US Patent 5,308,440), Nogamin et al. (US Patent 6,060,383), Natzle (US Patent 6,097,092), Zhao (US Patent 6,211,561 B1), Nogami et al. (US Patent 6,281,587 B1) and Ahn (US Patent 6,294,455 B1) have been examined and have been found to be of general interest to the invention. These prior art records however do not teach the extent and the detail combined with the flexibility of the present patent application.

Other Considerations

No new independent or dependent claims have been written as a result of this office action, no new charges are therefore incurred due to this office action.

SUMMARY

A new method is provided for creating air gaps in a layer of IMD. A first layer of dielectric is deposited over a surface; the surface contains metal points of contact. Trenches are

etched in this first layer of dielectric. The trenches are filled with a first layer of nitride or disposable solid and polished. A second layer of dielectric is deposited over the first layer of dielectric. Trenches are formed in the second layer of dielectric, a second layer of nitride or disposable solid is deposited over the second layer of dielectric. The layer of nitride or disposable solid is polished. A thin layer of oxide is deposited over the surface of the second layer of dielectric. The thin layer of oxide is masked and etched thereby creating openings in this thin layer of oxide, these openings align with the points of intersect of the trenches in the first layer of dielectric and in the second layer of dielectric. The nitride or removable solid is removed from the trenches. The openings in the thin layer of oxide are closed off leaving a network of trenches that are filled with air in the two layers of dielectric that now function as the Inter Level Dielectric.

It is requested that should Examiner not find the claims to be allowable that he call the undersigned Attorney at his convenience at 845-452-5863 to overcome any problems preventing allowance.

CS99-120
Serial number 09/418,029

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned:

"Version with markings to show changes made."

Respectfully submitted,



Stephen B. Ackerman (Reg. No 37,761)

Version with markings to show changes made

IN THE SPECIFICATION

1) page 7, second paragraph, page 8, first paragraph, please replace this text with the following:

In accordance with the objectives of the invention a new method is provided for creating air gaps in a layer of IMD. [A first] First and second layers [layer] of dielectric [is] are successively deposited over a surface; the surface contains metal lines running in an Y-direction. Trenches are etched in [this] the first and second layer of dielectric in [the] an X[-direction] and Y-direction respectively. The trenches [in the X-direction] are filled with a [first] layer of nitride and polished. [A second layer of dielectric is deposited over the polished surface of the first layer of dielectric thereby including the trenches that have been filled with nitride. Trenches are formed in the Y-direction in the second layer of dielectric, a second layer of nitride is deposited over the second layer of dielectric thereby including the trenches that have been formed in the Y-direction in the second layer of dielectric. The layer of nitride is polished thereby including

the surface of the second layer of dielectric. It must be noted at this point that the trenches that have been filled with the first layer of nitride in the first layer of dielectric intersect the trenches that have been filled with the second layer of nitride in the second layer of dielectric intersect under an angle of 90 degrees.] A thin layer of oxide is deposited over the surface of the second layer of dielectric[thereby including the polished nitride in the second layer of dielectric]. [The thin layer of oxide is masked and etched, thereby creating openings in this] Openings are created through the thin layer of oxide [whereby these openings] that align with the points of intersect of the nitride in the trenches in the [first layer] layers of dielectric [and the nitride in the trenches in the second layer of dielectric]. The nitride is removed from the trenches by a wet etch, thereby opening trenches in the [first layer of dielectric while also opening trenches the second layer] layers of dielectric with both sets of trenches being interconnected. The openings in the thin layer of oxide are closed [off], leaving a network of trenches [that are filled with] containing air in the two layers of dielectric [that now function as the Inter Level Dielectric].

2) page 32, please replace the ABSTRACT with the following new ABSTRACT:

[A new method is provided for creating air gaps in a layer of IMD. A first layer of dielectric is deposited over a surface; the surface contains metal points of contact. Trenches are etched in this first layer of dielectric. The trenches are filled with a first layer of nitride or disposable solid and polished. A second layer of dielectric is deposited over the first layer of dielectric. Trenches are formed in the second layer of dielectric, a second layer of nitride or disposable solid is deposited over the second layer of dielectric. The layer of nitride or disposable solid is polished. A thin layer of oxide is deposited over the surface of the second layer of dielectric. The thin layer of oxide is masked and etched thereby creating openings in this thin layer of oxide, these openings align with the points of intersect of the trenches in the first layer of dielectric and in the second layer of dielectric. The nitride or removable solid is removed from the trenches. The openings in the thin layer of oxide are closed off leaving a network of trenches that are filled with air in the two layers of dielectric that now function as the Inter Level Dielectric.]

In accordance with the objectives of the invention a new method is provided for creating air gaps in a layer of IMD. First and second layers of dielectric are successively deposited

over a surface; the surface contains metal lines running in an Y-direction. Trenches are etched in the first and second layer of dielectric in an X and Y-direction respectively. The trenches are filled with a layer of nitride and polished. A thin layer of oxide is deposited over the surface of the second layer of dielectric. Openings are created through the thin layer of oxide that align with the points of intersect of the nitride in the trenches in the layers of dielectric. The nitride is removed from the trenches by a wet etch, thereby opening trenches in the layers of dielectric with both sets of trenches being interconnected. The openings in the thin layer of oxide are closed, leaving a network of trenches containing air in the two layers of dielectric.

IN THE CLAIMS

Please amend the claims as follows.

4. (Amended) The method of claim 1 wherein said first network of trenches intersects said second network of trenches under an angle of about 90 degrees, said angle being measured as an angle created between a first intersection and a second intersection, said first intersection being an intersection of a first plane of a sidewall of a trench pertaining to said first network of

trenches and the surface of said semiconductor substrate, said first plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith, said second intersection being an intersection of a second plane of a sidewall of a trench pertaining to said second network of trenches and the surface of said semiconductor substrate, said second plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith.

5. (Amended) The method of claim 1 wherein said first network of trenches intersects said second network of trenches under an angle other than 90 degrees, said angle being measured as an angle created between a first intersection and a second intersection, said first intersection being an intersection of a first plane of a sidewall of a trench pertaining to said first network of trenches and the surface of said semiconductor substrate, said first plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith, said second intersection being an intersection of a second plane of a sidewall of a trench pertaining to said second network of trenches and the surface of said semiconductor substrate, said second plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith.

11. (Amended) A method of forming air gaps between metal leads of a semiconductor device, comprising the steps of:

providing a semiconductor substrate whereby the surface of said semiconductor substrate has been provided with points of electrical contact;

forming a first network of trenches in a first level of dielectric said first level of dielectric having been deposited on the surface of said substrate whereby said first network of trenches is filled with a disposable solid layer, creating a first network of disposable solid filled trenches;

forming a second network of trenches in a second level of dielectric said second level of dielectric having been deposited on the surface of said first level of dielectric whereby said second network of trenches is in physical contact with and intersects with said first network of [nitride] a disposable solid filled trenches whereby furthermore said second network of trenches is filled with a disposable solid layer, creating a second network of disposable solid filled trenches;

depositing a first thin layer of oxide over the surface of said second layer of dielectric;

etching openings in said first thin layer of oxide said openings to align with said intersects between said first network of trenches and said second network of trenches;

removing said disposable solid layer from said second network of trenches furthermore removing said disposable solid layer from said first network of trenches; and

depositing a second thin layer of oxide over the surface of said first thin layer of oxide thereby closing said openings in said first thin layer of oxide.

15. Please cancel claim 15.

16. (Amended) The method of claim 11 wherein said first network of trenches intersects said second network of trenches under an angle of about 90 degrees, said angle being measured as an angle created between a first intersection and a second intersection, said first intersection being an intersection of a first plane of a sidewall of a trench pertaining to said first network of trenches and the surface of said semiconductor substrate, said first plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith, said second intersection being an intersection of a second plane of a sidewall of a trench pertaining to said second network of trenches and the surface of said semiconductor substrate, said second plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith.

17. (Amended) The method of claim 11 wherein said first network of trenches intersects said second network of trenches under an angle other than 90 degrees, said angle being measured as an angle created between a first intersection and a second intersection, said first intersection being an intersection of a first plane of a sidewall of a trench pertaining to said first network of trenches and the surface of said semiconductor substrate, said first plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith, said second intersection being an intersection of a second plane of a sidewall of a trench pertaining to said second network of trenches and the surface of said semiconductor substrate, said second plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith.

23. (Amended) A method of forming air gaps between metal leads of a semiconductor device, comprising the steps of:

providing a semiconductor substrate;

depositing a layer of metal on the surface of said substrate;

etching said metal layer in a pattern to form metal leads, said metal leads running in a Y-direction said metal leads furthermore having top surfaces;

depositing a first layer of dielectric over the surface of said substrate thereby including said metal leads;

creating trenches in said first level of dielectric said trenches running in a X-direction;

filling said trenches in said first layer of dielectric with a first layer of nitride or another disposable solid;

depositing a second layer of dielectric over the surface of said first layer of dielectric thereby including said first layer of nitride or another disposable solid;

creating trenches in said second level of dielectric said trenches running in a Y-direction said trenches furthermore having intersects with said trenches created in said first layer of dielectric;

filling said trenches in said second layer of dielectric with a second layer of nitride or another disposable solid;

depositing a first thin layer of oxide over the surface of said second layer of dielectric thereby including the surface of said second layer of nitride or other disposable solid;

etching openings in said first thin layer of oxide said openings to align with said intersects between said trenches created in said first level of dielectric and said trenches created in said second layer of dielectric;

removing said second layer of nitride or other disposable solid from said trenches created in said second layer of

dielectric furthermore removing said first layer of nitride or other disposable solid from said trenches created in said first layer of dielectric thereby creating a network of trenches in said first layer of dielectric and in said second layer of dielectric whereby said trenches in said first layer of dielectric intersect said trenches in said second layer of dielectric under an angle of about 90 degrees, said angle of about 90 degrees being measured as an angle created between a first intersection and a second intersection, said first intersection being an intersection of a first plane of a sidewall of a trench pertaining to said trenches created in said first level of dielectric and the surface of said semiconductor substrate, said first plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith, said second intersection being an intersection of a second plane of a sidewall of a trench pertaining to said trenches created in said second layer of dielectric and the surface of said semiconductor substrate, said second plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith; and

depositing a second thin layer of oxide over the surface of said first thin layer of oxide thereby closing off said openings in said first thin layer of oxide.

24. (Amended) The method of claim 23 wherein said whereby said trenches in said first layer of dielectric intersect said trenches in said second layer of dielectric under an angle other than 90 degrees, said angle of about 90 degrees being measured as an angle created between a first intersection and a second intersection, said first intersection being an intersection of a first plane of a sidewall of a trench pertaining to said trenches created in said first level of dielectric and the surface of said semiconductor substrate, said first plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith, said second intersection being an intersection of a second plane of a sidewall of a trench pertaining to said trenches created in said second layer of dielectric and the surface of said semiconductor substrate, said second plane having been extended towards said surface of said semiconductor substrate to enable intersection therewith.

Claims 25-28. Please cancel claims 25-28.